**Assignment-1**

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**Q1.Data Analysis of Frailty Dataset Results**

**Heat map:**

The heatmap uses a color scale to represent the strength and direction of the correlation between each pair of variables. Red colors indicate a positive correlation, meaning that the two variables tend to increase or decrease together. Blue colors indicate a negative correlation, meaning that when one variable increases, the other variable tends to decrease. The intensity of the color represents the strength of the correlation, with darker colors indicating stronger correlations.

A screenshot of a graph

Description automatically generated

Here are some of the key observations from the heatmap:

Height and weight: There is a strong positive correlation between height and weight (0.80). This means that people who are taller tend to also be heavier.

Age and grip strength: There is a moderate positive correlation between age and grip strength (0.54). This means that older people tend to have stronger grip strength.

Height and grip strength: There is a weak positive correlation between height and grip strength (0.19). This means that taller people tend to have slightly stronger grip strength.

Weight and grip strength: There is a weak positive correlation between weight and grip strength (0.14). This means that heavier people tend to have slightly stronger grip strength.

Age and frailty numeric: There is a strong positive correlation between age and frailty numeric (0.80). This means that older people tend to have higher frailty scores.

Grip strength and frailty numeric: There is a moderate negative correlation between grip strength and frailty numeric (-0.55). This means that people with stronger grip strength tend to have lower frailty scores.

**Scatter Plot:** Scatter plot showing the relationship between grip strength and age.

In the graph we can see that :

**Axes:** The x-axis represents age, likely in years.

The y-axis represents grip strength, likely in kilograms.

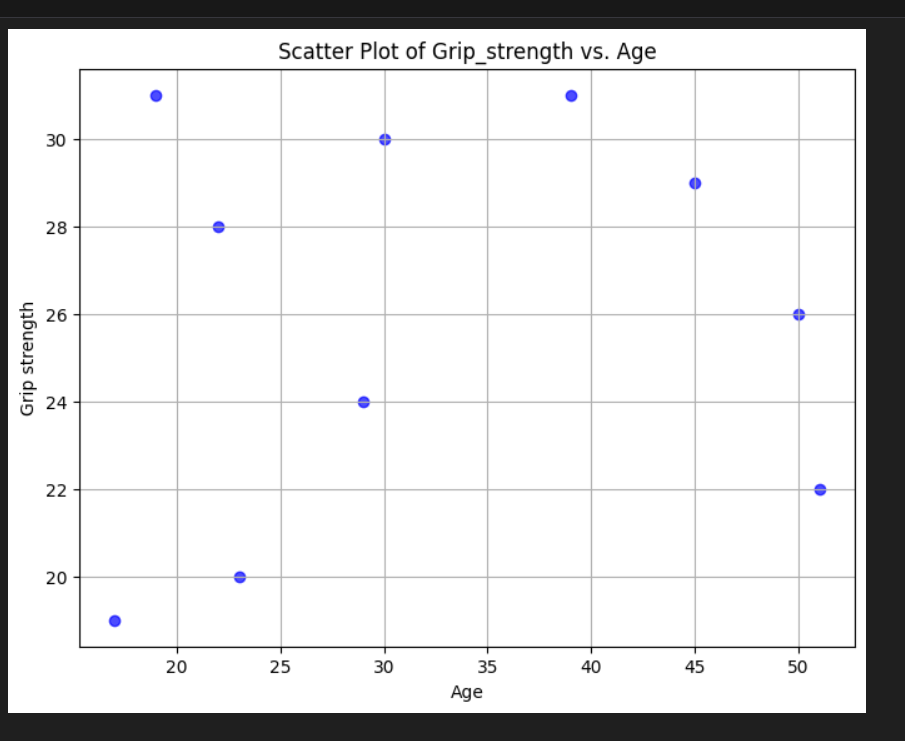
**Data:** Each data point on the graph represents the grip strength of one individual at a specific age.

There are several data points, but it's difficult to say how many due to the resolution of the image.

The data points appear to be scattered across the graph, which suggests that there is no strong correlation between age and grip strength.There seems to be a wider range of grip strength values at younger ages compared to older ages. This could be due to several factors, such as:

Younger people are more likely to participate in activities that strengthen their grip.

Grip strength naturally declines with age. The data only represents a small sample of the population. It's important to remember that this is just a single image, and it may not be representative of the general population. More data and analysis would be needed to draw any meaningful conclusions about the relationship between age and grip strength.



**Frailty DistributionA graph with blue squares and black lines

Description automatically generatedA graph of a number of blue rectangular bars

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